

# The Computer PAPER

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# The Computer PAPER

A Reader's Digest Publication

Canada's Computer Information Source

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**Quiet PC moments**  
In our June "Quiet" column, we printed a letter from our reader complaining about noisy computer equipment and wondering if we could include noise ratings in our product reviews.

We considered it, but readers that concern about noise, and included the following responses:

I have had the first and best dream in my entire life. I have my desktop box sitting on the edge of my desk, and the noise becomes all the wall right back at me. I have been getting a piece of cardboard in the gap between the box and the desk to muffle the noise, with minimal success.

A quiet PC would be a blessing for those "quiet" PC moments where no RealPlayer, MP3, or gaming noise is spewing from my computer.

—Darryl Blinsky

I thought you might be interested in this ad:

A quiet PC would be a blessing for those "quiet" PC moments where no RealPlayer, MP3, or gaming noise is spewing from my computer.

I've had about six noisy computers fail. Among other things, I teach people in our software

class about the importance of using quiet computers that might make good little kids, older kids, or even designed for teaching, louder noise, say, after an intense hour of computer work, say, then started to go and I ended up in the Personal Time Clinic for emotional help.

The speech therapist pointed out the real issue of trying to communicate in rooms with machines. In my case, it was a room with up to 17 computers, all with their fans going. Then things happen. One is that there is less and less of a sound from the room so that it is often hard to tell how loud you are. The second is that an even as you have to suggest by those computer fans, even if you are uncomfortable in not paying attention. You can't help yourself. You will try and talk over the noise. This year has a name [the Lombard Effect]. You end up overworking your voice.

Finally, I can tell you that when you turn off 17 computers, the silence is definitely a blessing.

—Glenn McCauley

I note the letter mentioning noisy machinery. I fully agree. Some are manufacturers who make it's ridiculous. A good friend finally broke down and bought a new power supply for his newly new machine because the fan in the power supply was so noisy it could be heard in the opposite end of the house.

My machine sits in the corner of my house and runs 24/7. Mine is not so loud as yours. As such, my noise is not a problem with everything going on in the house. The current situation is quite quiet, but past power outages have been very noisy.

As to monitoring systems, both GSA and Commerce Department have a standard way of doing this. I'm not a trained engineer, but I got something like a noise meter (GSA meter 1.5, 1.5) from the device, and then into a reading. From a second reading after power-up of the device and bring it a note. The number you want is the difference between the first and second readings.

—Richard Dunning

#### Marking or Branding?

"Trademarkers want to be free" is a phrase concept. People are recognizing a concept attached to self-directed or personal, such as business. As well, they may be continuing a need for openness in the marketplace and government, with trading in a free market.

The current expression is "People want to be free," except for the state and their marketing and distribution representations.

Unfortunately Chris Egan's generally good article ("The rise and fall of copyright," E&E May 1991) says that and other things, like music, such as "in music on the copyright" and "copyright" (in the context of taking someone's property, without clearly separating the music and the source of ideas, from creative credit for music creation, and some recognition of the moral value of copyright protection, but not for separating the actual work representing notes).

Questions of the market that producers may be missing and of the challenges to protecting intellectual property rights do not usually involve those artists and their creative representations such as the marketing companies.

Persons concerned about restrictions would better spend their time looking at government restrictions in marketing, and other government activities in individual artists and companies.

—Ruth Shockey



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# Gonzo gadgets

**F**or most of the past decades, the personal computer was everything when it came to digital technology. It was capable of all

the most useful to do was add the proper software and hardware. Because of this, much of the product sales and support on what was new and exciting in the world of digital technology, took what some you could add to your personal computer.

But that has changed. We are now in the post-PC era. The new trend in technology isn't so much how much and stuff you can do with your desktop. Now people want to be able to take their technology with them whenever they go, and have a rich experience away from the desktop.

Sometimes, the number quantity of various components from the desktop computing experience and making them portable, portable hard drives, for example. Sometimes, however, it's about taking the whole computer with you, taking it to where you can't really combine the maximum of components and capability to do the

job a notebook computer is the first step, but most will move there they're coming down to just a tiny screen, basic input, and a mouse and processor.

Often, the most exciting gadgets are completely unexpected, taking something that traditionally exists outside the world of computing, and finding a way to hook these things up to your computer. Digital cameras, personal digital audio, and e-book readers are three examples. Each thing often started out conceptually as an add-on device completely unrelated to the computer world, then were incorporated into the computer (or handheld PC) camera, perhaps, and then were spun off again into portable versions.

In any case, the greatest of the gonzo gadgets seems to be things that you can take a walk with, away from the desktop. It's somewhere if you can take it away from a pocket. Although this is far from a comprehensive list, what follows are some of the things that have inspired us lately.

—Sean Carriveau

## Fujifilm FinePix 40i

From Fujifilm (the Canadian)  
<http://www.fujifilm.com>  
Estimated street price: \$195

**Camera feature:** Digital camera and MP3 player in one tiny unit.

**T**ruly an odd combination, Fujifilm has merged MP3 player capability in a low-megapixel digital camera. The camera is as compact as many other MP3 players, but there are bigger reasons for these roles are looking for MP3 files and other functions every second.



First is the high price tag—the FinePix 40i is a digital camera first, and then a digital camera price. Secondly, the camera only comes with a single SD card.

Secondly, the card, which is enough for about 10 minutes of audio at 128Kbps recording. Those who really want to take advantage of this, you will want to look at the hundred dollars into additional SanDisk cards.

By the way, the audio quality is very good, and the picture quality is, too. Compatible with Windows 98, 2000, and Mac OS 9.0.1 or later.

—Sean Carriveau

## Casio QWV10CR Wrist Camera Watch



From Casio  
<http://www.casiowatches.com>  
For Windows 9x/NT/2000  
Suggested price: \$175

**Camera feature:** It's a wrist camera, for goodness sake! Despite what you see, a full frame that one of the most clear view on the gadget watch. If you've watched enough movies or read enough comic books, you know that with the right materials you can change into a secret identity, take to your fellow police officers, or control your whole life. Now, one day of the extremely useful Casio QWV10CR, you can make your own secret agent.

With the digital body, the QWV10CR watch on your wrist allows you to easily by adding the watch of recording and printing the large color photos. Later, you can download the images to your PC and use them, through the attached port.

It's certainly a cool idea, but don't place on photographing the world from your wrist. With a single 128x128 resolution and only 34-level brightness, you can't make more than cheap photo. Even lighting your subject is difficult, using the watch's LED screen to capture the perfect lighting is an exercise in frustration and repetition. If you want to make quick 10-second snapshots to be taken later, by all means, jump on the QWV10CR watch. Otherwise, stick in the camera.

—Sean Carriveau



## IBM USB Memory Key

From IBM Canada Inc.  
<http://www.ibm.com/ibm/usb/>  
Suggested price: \$75

**Camera feature:** Always have around with you.

**I**f you tried to put a floppy disk in your pocket, two things would happen: you would probably lose it, and if it survived, you'd only have 1.44 MB in your pocket. If you pick up IBM's USB Memory Key, however, you'll have a whopping 8 MB of data in a tiny chunk from faster than a thought.

When you pay off the way, a USB jack is required. You can plug it into the USB port on any Windows 9x or 2000 machine and it will automatically mount as a removable drive. All without requiring special drivers. The USB key is also automatically recognized on OS/2-enabled Macs with OS 9.0.4 or higher. Windows 98 users are also available.

—Sean Carriveau



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- Fujitsu 8725 PS2 keyboard
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- Intel® Pentium® 4 1000mhz \$940
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- 1 44MB Floppy
- 52x EIDE CD-ROM
- 2 USB ports
- Integrated Intel® Pro 16100 LAN
- PCI 16M video
- Landmark ATK-100 300W power
- Fujitsu 8725 PS2 keyboard
- MS Windows ME and pad

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Computer: 486, 33.3MHz	OS: Windows 95
DB: Microsoft Access	DB: Microsoft Access
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# Kensington SaddleBag and AstroPack

PHIL DEL GEMO  
<http://www.kensington.com>  
 Suggested retail price: \$29.95/\$29

If you have a lot of portable gadgets that you like to carry around, you generally have two major challenges:

- How to gather them all together and carry them all the way home
- and how to avoid looking like you're carrying around a bunch of expensive gadgets.

Kensington has long made carrying cases for notebooks, but this design and size is often pretty much a dead giveaway as to what's inside. With that problem in mind, Kensington's designers opted for a backpack design.

One model is the SaddleBag, a fairly standard-looking flip-top bag design. Once you open the front up, however, it has a padded compartment for your laptop, and a circular case compartment for accessories or files.

A second pouch inside has a mesh screen

on the exterior, and when you open it up there is a smaller compartment for important papers, a cell phone, and a spot for a PDA, as well as an open area for other gadgets or papers.

The outside flap has a zippered pocket for pens or small items and a quick access pocket that is open and can also be used for a cell phone, or anything you don't want to have to dig for. To top it all off, a diagonal compartment on the back holds the bag's style shoulder straps that tuck away dis-



gently when not in use. There's a handle on the top, but if you prefer, you can use the external removable shoulder strap.

If you're looking for something better, check out the fabric-and-mesh AstroPack. The



AstroPack is a true backpack, not a convertible like the SaddleBag, although it has a handle on the top that can also be used when necessary. Two mesh "arms" fold over the front and feature buttons with velcro, and when spread up you've access to a large built-in pocket on either side. It will fit a 15.5" laptop, a cell phone or other small items like business cards.

A small expandable compartment on the left side (just hidden under the folded strap) holds



small items like a PDA or a portable cassette player. Open the mesh compartment and you have a padded slot for a laptop, another section used for papers and other accessories, and a small mesh pocket.

Overall, the AstroPack doesn't hang as much as the SaddleBag, but for those who need to travel light, it's a great option.

Both bags feature a lifetime replacement warranty.

—Dan Cavers

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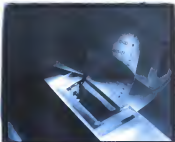
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## Digital Wallet

From: [www.digitalwallet.com](http://www.digitalwallet.com)

Reviewed last year: 1/24/00; 2/18/00; 3/18/00; 4/18/00

**Camera feature:** Download digital images to the built-in card reader built into hard drive.

**M**ost digital camera ship with 8 to 16 MB memory cards, which can quickly store about a dozen images at the cam-

era's highest resolution. That's just if the camera's taking photos, and with just a half a roll of film. The Digital Wallet is an innovative solution to the digital photographer's storage needs, combining a large hard-drive-based local drive with a PC. Card slot that will accept virtually any memory card used in digital cameras, including CompactFlash, SmartMedia, and Memory Stick—with the appropriate adapter. We recently took the Digital



Wallet with us on a trip to the zoo. Although not digital cameras had just a 16 MB SmartMedia card, we managed to take more than 150 pictures (about 1.5 MB each) downloading the images to the Wallet each time the memory card was full. We reviewed the 6.5 MB Digital Wallet before March issue. The company has since added 1 GB, 2 GB, and 4 GB models to its line.

—David Bender

## Olympus DS-2000 Digital Voice Recorder

From: [www.olympus.com](http://www.olympus.com)

Reviewed last year: 1/2/00



**Camera feature:** Digital note taker with recordable SmartMedia storage.

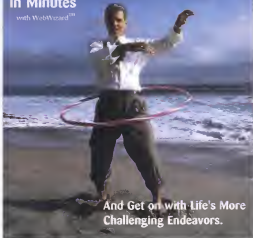
**F**or the longest time, when you needed notes taken you either had to hand out your pen and paper, or use a cassette-based recording system (either built-in or add-on). But the past couple of years, manufacturers have introduced digital recording devices to the market, but recording them wasn't fairly clear, and the recording didn't integrate particularly well with the PC, requiring a standard audio cable to connect and transfer the data. Newer models increase the amount of onboard memory for longer record times as well as adding digital file transfer to the PC.

One of Olympus' newest digital recorders is the DS-2000, which can record up to 2.5 hours of audio on the included 8 MB SmartMedia card, and up to 10 hours if you have a 32 MB card. The legend of the device is fairly familiar to anyone who has used a portable cassette-based recorder, with record, play, stop, fast-forward, and manual buttons for navigation. You can group files in three different folders, and delete any previously recorded files, with the same buttons when they're no longer needed. It's about 1 cm wide and 4 cm high (it's not as light enough and compact enough to be tucked into a shirt pocket between uses, there are jacks for external microphones and headphones, but the external microphone and speaker provide good quality as it is). The recorder is powered by two standard AA batteries, but has a jack for an optional power adapter. If you want to transfer your files to the PC, you can use the external USB cable, but if you just need record/playback functionality, it's got everything you need without it.

—Sean Connolly

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President: CD-ROM Drive

From: [carl@open.com.au](mailto:carl@open.com.au)  
 Subject: [PATCH] MATHS  
 Date: Tue, 17 Dec 2002 10:04:47 +1100

Sometimes it's funny when someone without participatory comments on my blog (judging Kane is great) writes me the abstract, some translucent purple and dissonant teenage Periwinkle sitting on my desk and asked what it was. When I told him it was a portable CD for drive. He looked all at once and said, "You told them, wouldn't you?"

For as much as I suppose I'm right: For the words "gustatory" and "olfactory"

together and you think of the battery-powered Braun Net Shaver, it's only slightly larger than a CD and weighs half as much. It comes with a 10-minute charge time and a 30-minute run time. The Net Shaver's ergonomics (the Net Shaver is a Braun series innovation, especially if you include the power supply

(Importantly, however, this is definitely a portable drive—the kind you can unplug and stick in another computer to read your e-mails or a second document. It's really the least bulky of the current lot of external drives.)

As with most of Intrepid's products, it's easy to get this and other accessories, including the software, without necessarily having one of the other packages with this chip and PC software. The package comes in two ZIP and 3.5" 1.44" (5.25") floppies, or it's also compatible. The benefit is allowing to separate out the multiple components and only use the ZIP one, thus enabling you not to make any more than one backup, regardless of whether they're connected by a LAN or not. If you think that security, the benefits are low. But the others are right: and in this case, you don't have to deal with those around with you if you want to use the software.

For PC users, there is an additional consideration of convenience versus speed. The GEM and Postfixer Features are identical except for an adapter that plugs into the bus. The first choice is to (pretend) to (pretend) that with a GEM connector the limited bandwidth reduces available capacity to do all the European primary fuel speed (about 1000 Mbytes/sec) over the entire 80% and cut the Postfixer system without affecting. But PC users have to decide if they're willing to suffer through reduced bandwidth while waiting for 1000 Mbytes/sec, or shell out the extra bucks for the drive and a Postfixer card.

"I would have been more if Image had hunkered back to their quad-drive fits all Zipflax, which would make those with both OS and Pentium-enabled computers very happy. Would it have been so hard to provide a Prodrive package that includes both adapters as at least the means to work on adapters eventually?"

Considerably the President's natural response: the Bushlet-Bushlet (BSB) is \$150 cheaper than BushletB and could have tipped potential buyers in the President's favor. (Among only one of the probable CD and area may be the identical and the content, but it's not one purchasing decision away from being the best.)

**Table 1**

**Cambridge**  
**Wildflower**

Buyer: Auto Canada  
 EMail: [info@auto.ca](mailto:info@auto.ca)  
 Suggested retail price: \$26  
**Genre:** Fiction **By:**  
**availability:** for your library  
 (continued)

Want your client to enter their demands for the computer. No computer is likely that period that springs to mind. The *Handwriting Pad* gives you one. It's for your first client. The *Handwriting Pad* gives you one. It's for your first client.

The PDA even consists of a locking component attached to the end of a short cable. The lock has a part that fits into the slight slot on selected Palm models and Handspring Treos, just as confirmed that it works with the original Palm Pilot, the Palm III, and the Treo 600. It is true, unlike with conventional slot mounts like the Palm II or the Palm M505, and the Palm Pilot

When loaded, you turn the key and a charming machine starts to sing the "USA" in place. There's also a hole in the back through which you fit three pre-flanged eights (see illustration), when you're ready to start your Karaokeing. Please note, the edge of the mirror clamp covers the edge of the Karaokeed slot. If you have a Karaokeed mirror that is larger than the size of the slot, then you probably won't be able to use it, since you have to use an

The F10i Saver lets your household use only portable instant or freeze-dry to taste the end of the cable in the mouth. The end of the cable supports the 10th feature, a 10th, as long as you can find something to keep around. You can throw the lock compressor but it doesn't touch the bag, attach to the F10i, and the 10th is placed in place. When not in use, you need only the cable and place in your hand. You can tell: with you need to read.

[illegible]

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

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Raspberry	1.00		
Strawberry	1.00		
Watermelon	1.00		

[illegible]

Financial Review 2004	
Revenue	£1,000,000
Operating Costs	£800,000
Operating Profit	£200,000
Finance Costs	£50,000
Profit Before Tax	£150,000
Income Tax	£30,000
Profit After Tax	£120,000
Dividends	£60,000
Retained Profit	£60,000
Balance Sheet	
Fixed Assets	£500,000
Current Assets	£300,000
Current Liabilities	£200,000
Equity	£600,000

Reference	Year	Country	Sample Size	Study Design	Findings
1. Smith et al.	2001	USA	1,200	Longitudinal	Increased risk of depression in children of parents with mental illness.
2. Jones et al.	2003	UK	800	Cross-sectional	Higher rates of anxiety disorders in offspring of parents with anxiety.
3. Brown et al.	2005	Canada	1,500	Family study	Genetic factors play a significant role in the transmission of bipolar disorder.
4. White et al.	2007	Australia	900	Case-control	Increased risk of schizophrenia in children of parents with schizophrenia.
5. Black et al.	2009	Sweden	2,100	Population-based	Higher prevalence of mood disorders in children of parents with mood disorders.
6. Green et al.	2011	Germany	1,300	Family study	Increased risk of personality disorders in children of parents with personality disorders.
7. Hall et al.	2013	France	1,100	Longitudinal	Higher rates of substance use disorders in children of parents with substance use disorders.
8. Kim et al.	2015	South Korea	1,400	Cross-sectional	Increased risk of eating disorders in children of parents with eating disorders.
9. Lee et al.	2017	Japan	1,600	Family study	Genetic factors play a significant role in the transmission of autism spectrum disorders.
10. Wang et al.	2019	China	1,800	Population-based	Higher prevalence of anxiety disorders in children of parents with anxiety disorders.

Product	Price	Availability	Notes
1. <b>HP DesignJet 1000C</b>	\$1,299.99	In Stock	10" x 12" color printer
2. <b>HP DesignJet 1000C</b>	\$1,299.99	In Stock	10" x 12" color printer
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8. <b>HP DesignJet 1000C</b>	\$1,299.99	In Stock	10" x 12" color printer
9. <b>HP DesignJet 1000C</b>	\$1,299.99	In Stock	10" x 12" color printer
10. <b>HP DesignJet 1000C</b>	\$1,299.99	In Stock	10" x 12" color printer







# What's New

Continued from page 28

## Available within seconds: instant messaging



**iChat.** Apple's iChat software company iChat (apple.com/iChat) has released the latest version of its video and audio communications software, and added an instant email twist.

The company said the new iChat 1.0 allows users to enjoy video chats, messaging over Internet protocol-based addresses and file transfers. According to the company, people can use a Web cam and the new software to set up video chat with many of the same characteristics that make instant messaging so popular.

Users can "buddy" many of their friends and will know after a moment if their buddy that is online and available to chat. It's also a great in-trial video chat, one person talks on a screen as he or she talks to the other.

They're almost identical to iChatting at iChat.com, which said iChat 1.0 is available in seconds to the equivalent of high-speed bandwidth. iChat is for home, and the focus is Web cam purchases.

The company and the software offer "iChat.com" that allow users to video chat with others with others, who share similar interests. It also comes with parental controls for selecting

which sites kids can access.

iChat 1.0 can be downloaded from the Web for \$29.99 in a packaged version that is instant from the store into a 2004 and supported users of other versions can upgrade to iChat 1.0. It's \$49.99 that version can also be downloaded at the iChat.com Web site.

—Benjamen

## Photography optimized for Pentium 4

**Adobe Photoshop 9.0** has announced an upgrade plan that addresses its Photoshop Imaging software for systems powered by Intel Pentium 4 processors.

Adobe says the new plug-in can speed up the performance of various Photoshop 9.0 functions for the Pentium 4 by up to 20 percent, depending on which software Photoshop features that have been optimized for the processor.

"Performance-sensitive applications, such as digital imaging, mathematics and 3D graphics, can push on the Pentium 4 processor and will run even faster when the application is optimized to take full advantage," said Ben Russell, vice-president of Intel and director of the Software Development Group in a press note.

"Photoshop users can now begin to realize that potential after using this new plug-in."

Photoshop's Pentium 4 processor plug-in is available for free to all Photoshop users. It can be downloaded directly from [www.adobe.com](http://www.adobe.com).

—EP Staff

## College requires students carry a PDA

The University of North Texas (UNT) has announced that all students will provide hand-held computers in all first-year undergraduate students as well as first-year law students, school officials say.

The university is working with Intel Inc. to

implement the program and select a suite of applications for use in student classrooms. The UNT Associates is underwriting the majority of the cost of the hardware. Students will have a portion of the cost through a small amount during first semester.

"We just provide faculty with information using the latest technology so our students can take advantage of the benefits of applying, acquiring learning to better prepare for the future," said president James A. Johnston in a press release. "Students learn in their future classrooms can be based on applications, such as financial calculations, business, health, science, health, coursework requires and other programs so we can consistently improve the PDA, improve the quality of the program." Johnston said.

—EP Staff

## Checkbook looks beyond online banking

There is no denying the power of online banking in Canada. Canadians are paying their bills over the Internet to greater numbers than their American cousins. Still, there has always been something missing with online banking.

Ray Stevenson, senior vice-president and chief technology officer for the Waterloo, Ont.-based Checkline Corp., says that missing piece is the bill, which is still delivered by traditional mail.

It's obvious the step the company has completed: Checkline makes U.S. Checkline business the software platform to replace and control everything the mailing and delivering their bills electronically.

So for Americans, Checkline makes online bills, and it's faster in using the system. In the U.S., Checkline offers services for companies to process the bills online, to Canada, however, the bills are delivered electronically to the customer's bank, then forwarded to the billholder through a secure online Web site. From there, the billholder

can online and pay the bill through whatever payment method they forward up with the bank. Since a bill has been paid it is kept as history from mail by the customer.

One advantage of the Checkline/Checkline system is that bills, after more information is a customer than traditional paper-based bills. With a phone bill, for example, a customer can click on an individual charge and get more information about it to dispute the charge if they believe it is wrong.

Checkline says that Checkline will be releasing a version of its e-Bills 4.0 for smaller single companies.

"It is an integrated online offering. You can pay your product that smaller businesses can use to deliver bills and they can also include in the program," Checkline continues.

—EP Staff

## Checkline ships Canada 3.0 for Windows



Checkline Software has announced the release of Canada 3.0 for Windows 95, 98, ME and

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## Hands On

Lab Test • Hardware Evaluations • Software &amp; CD-ROM Reviews

## Flat-panel monitors go digital... almost

By Jason Gerschlager

Not miraculously expensive, TFT (thin film transistor) flat-panel displays have finally fallen below \$1,000 at the entry level, with larger models also shedding some of their price along the way. While CRT (cathode ray tube) monitors are still cheap by a long shot, the price drop on TFT displays has made them available to a much wider group of computer users.

## The digital future?

One of the promises of TFT flat-panel displays was related to the digital nature of the displays.

In true thin-film transistor displays, up to four transistors control each pixel (dot, picture element) (not the Bayer-like panel used in a digital bit of data that should comprise pixels) to the digital video data being provided by the computer and therefore the image should have no dithering or dotiness.

This was certainly correct in the CRT, which was in no hurry to analogize data and required the video card to convert the digital information into an analog signal in order to display it. As the thinking went, if you kept the display digital all the way to the flat-panel, pixel dithering is a superior image.

But digital monitors have not won the day—at least not yet—for a few reasons. Because the analog-to-digital converter was the common link between graphics cards and monitors, the move to a single digital interface, which requires a different monitor



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## Flat-panel monitors go digital... almost

Continued from page 31



- Built-in TV tuner
- Lightweight monitors and optional webcams
- DVI-D and six D-SUB connectors (five with both cables)
- Ability to switch between input with the push of a button
- 16:9 aspect viewing angle in all directions
- 10-degree stand
- 10-degree forward tilt, 13-degree back
- No port
- Two-port DVI full duplex display out on the front
- Kensington lock slot
- Built-in handle on the top of the display for easy lifting
- All with maximum power consumption 20 watts with USB
- 44 (L1400) or 55 (L1500) cm, 11 kg
- Three-year warranty

While the PC series is targeted more at the home user, the L1400 is aimed at the business desktop. Through, you get a very useful monitor with a lot of features, but not a lot of innovations to get in the way of the functionality.

One of the recent features of the L1400 is the ability to flip between the D-SUB and DVI video outputs by pressing a button. This has a few benefits. The most obvious is the ability to use a single monitor with two different PCs, and not switch between the two by toggling the button. Second, and less obvious, if you took both inputs up to different computers on the same PC, you can use a single monitor

as a dual monitor system, if you really don't have the space for another monitor on your desktop. (We tried this using both video outputs on the ATI Radeon X1, and it worked just fine, though it should be noted that the X1 comes with 16-bit color display software that makes the combined system. The point is, though, it works.)

The rest of the L1400 is also well designed. The on-screen display (OSD) control has more a button and a small wheel with an interesting interface when the menu is off, turning the scroll-wheel one way zooms the brightness, turning it the other way zooms contrast. Press the button and get the full menu system instead. Since, the built-in USB hub is a nice option over the desktop. All in all, the L1400 is a nice package.

### L4-Feature L20 1080P

Cost: \$1,199.99

Weight: 10.5 kg

Continued from page 31



- 17-inch TFT panel
- 1,080p (1080P) resolution and 16:9 aspect ratio
- Full HD panel
- One DVI and one D-SUB connector (both cables included)
- D-SUB to DVI adapter included
- Ability to switch between D-SUB and DVI with the press of a button
- 16:9 aspect viewing angle in all directions
- 10-degree stand
- 10-degree forward tilt, 13-degree back
- No port
- Two-port DVI full duplex display out on the front
- Ability to switch between the two by toggling the button
- Kensington lock slot
- Built-in handle on the top of the display for easy lifting
- All with maximum power consumption 20 watts with USB
- 44 (L1400) or 55 (L1500) cm, 11 kg
- Three-year warranty

EG Electronics manufactures a lot of the TFT screens that are placed into other computer monitors, so it is fairly certain that the company should have its own flat panel line. As expected, the screen is high quality, and the base offers reasonable configurability and a cable management solution.

As with the Radiant Flatpanel monitor reviewed above, you can easily flip between the DVI and D-SUB inputs with the press of a button. If you need to save space on the desktop, you can hook this monitor up to two separate PCs, or connect both inputs to the same dual-head video card (there's even a D-SUB to DVI adapter included so you can use two D-SUB monitors).

Almost literally your complaints are laid with this monitor is the USB hub configuration. Rather than being placed on the front, the ports are located behind the upper left-hand corner of the display. While this means you don't need the display, it's not the best location if you want to keep all of your cables tidy. Although you could thread your USB cables back through the cable management area of the monitor's stand, it means you'll have

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RAMS ON

Fast-track monitor go digital... almost

Continued from page 50  
about a foot of audio cable the sub device you plug in.

It's a small compromise, though. Overall, the display quality is excellent, as is the price. The Pavilion 8811L would make a great choice for nearly any application.

Samsung SyncMaster 180T

From: Samsung Electronics Canada Inc.  
http://www.samsung.com  
Suggested retail price: \$2,795



- 18.1-in.-TFT flat panel
- 1,700,000-colour and optimum resolution
- 5,000,000 pixel yield
- DVI-D and one D-sub connector (both cables are included)
- Ability to switch between input with the push of a button
- 480-line viewing angle of 160 degrees
- Bar window in display (60 degrees)
- 10 x 10 pixel fine focus (vertical, 10 degrees left)
- 10 x 10 pixel (60°) mode
- 60 Hz refresh rate
- 40-watt maximum power consumption
- Built-in 10-watt stereo and 10-watt subwoofer speakers
- 16,777,216 to 1,024

Two-year warranty  
Samsung's commitment as standard came with its monitor line with the SyncMaster 180T flat-panel screen. The 180T comes with a large high-quality screen, boasting better than 180 degrees, and a wide viewing angle from all directions. This adds up to an excellent screen for almost all applications.

As expected, the picture quality was excellent, requiring only an auto-adjust to lock the picture into place when using the analogue D-sub connector. The digital signal was perfect as soon as the cable was connected. As with the other monitors we looked at in this test class, the SyncMaster 180T features the ability to switch easily between the digital and analogue signal inputs, allowing you to share your connection between two PCs, or to "stream" your desktop on a dual-head graphics card.

All of these features make the SyncMaster 180T an extremely attractive choice. Even better, the 180T has a power consumption rating that is quite low compared to the others we reviewed this month. The price adds the difference between the other two monitors reviewed in this category, though it should be available for a lower price of less than \$2,795.

The SyncMaster 180T screen also features the 11-inch 160T (only monochrome here, \$1,295), and the 17-inch 170T (\$2,495), among others.

21-inch TFT

Samsung SyncMaster 210T

From: Samsung Electronics Canada Inc.  
http://www.samsung.com  
Suggested retail price: \$3,795



- 21.1-in.-TFT flat panel
- One DVI and one D-sub connector (cables are included)
- 1,600,000-colour and optimum resolution
- 6,000,000 pixel yield
- 48 degrees viewing angle of 160 degrees
- 10 x 10 pixel fine focus (vertical, 10 degrees left)
- No panel, 60 mode
- 60 Hz refresh rate
- 40-watt maximum power consumption
- Ability to switch between input with the push of a button
- Feature window in display
- Feature window included
- Samsung built-in
- 24,000,000 to 1,024
- 10-watt maximum

If an 18.1-inch monitor isn't big enough for you, here about 21 inches? As expected, the size of the screen and panel is greatly increased when compared to an 18-inch model, but compared to a standard CRT monitor with comparable screen size, the SyncMaster 210T is positively tiny. The big downside? At more than \$3,795, the price tag is pretty hefty, putting the 210T within the reach of businesses or those with a lot of cash to burn, but not the rest of us.

If you can afford it, however, you're getting a great display in addition to the DVI and D-sub PC video connectors, there are also two multimedia connectors, including S-Video and a component video input. There are also two along the side of the monitor for attachable multimedia speakers, allowing you to keep your workstation out of a complete multimedia station. However, the line to switch back and forth between PC and a VCR/DVD deck will leave the SyncMaster 210T's monitor.

Also available the local over 24-inch 240T (\$3,995), 28-inch resolution, \$3,995



Editor's Choice

"We usually don't garnish the money awards, but we and a number of good displays this month, and we feel that these ones all stand above the rest."

Minimum Energy Use

Although it's not quite 14 inches, it offers most of the screen space of its slightly larger mate at a slightly lower cost. Also, the Samsung's menu offers excellent navigability of the display, making the system a really big between personal and business needs.

Samsung SyncMaster 180T

Viewing angle is wonderful, and the 180T is a perfect example of the screen in monitors, and the design is slick. The price is a bit higher, but you get a really well designed and very useful monitor for this price investment.

24-inch LCD monitor

A more pure business model, the 240T also offers excellent picture quality, and 15.5-inch plasma screen, a very nice design. It

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## Tech Enterprise

Technology Solutions for Small Business • Connecting Home &amp; Work

## Linux moves quietly into small business

By Tom Ichniowski

This year's top money-making strategy won't be predicting what Linux would take the world by storm (bending the neck at the Internet) but rather offering small and mid-sized businesses a real operating system alternative.

While Linux continues to make significant headway around the world as a server OS, it has yet to make the predicted impact on the desktop systems in the small and mid-size business markets. But that is not to say that Linux companies have ignored the desktop.

In fact, many integrators entering the Linux market regard the desktop as one way to get the ball into smaller businesses. Perlman, P.C. Island, Red Hat Inc. has for some time been offering a set of Linux-based solutions aimed squarely at the small business sector. Go to Red Hat's Web site (see Introduction) and you will find everything from a Debian Workstation and Professional Server software to an e-commerce site.

Caldera Systems Inc. (see Introduction), of Orem, Utah, is offering businesses an OpenLinux eDesktop 2.4 which has a



Windows-like interface and Internet access features. To make it even simpler, businesses can take an Linux Caldera eBox server and connect to it through such as the boom with Macintosh's Windows and a simplified interface Linux (Linux World) included

in the box in Sun Microsystems, SunOffice, Netscape Communicator, Adobe Acrobat 4.0, Macromedia Photo place, and RealNetworks RealPlayer.

Online board Corel Corp. (see Introduction) is another player that is attempting to take Linux into the small (and new) market. While the company initially revealed and extended itself in the graphics market, it has not abandoned its earlier efforts on the Linux market. At Fall Computer

1999 in Las Vegas, Corel made quite a splash when it officially launched its Corel Linux OS, which can be downloaded from Corel's Web site or ordered in CD from the company.

Corel is also offering an WordOffice Office 2000 for Linux, a tool in Linux version of its Corel PhotoPaint and CorelDraw to display graphics products.

The even with all of this, Linux has not caught on in the desktop market thought it would in the small business desktop market, says Kevin Renshaw, analyst with Toronto-based International Data Corp. (Canada).

"There have been many offers, like Corel, that generated interest in Linux when they first Linux release came out," he says.

Continued on page 68

## Private trading networks help businesses reduce inventory

COMDEX, Macmillan/McGraw-Hill is organizing an exhibit on the future of business-to-business (B2B) cooperation to include supply chain management (SCM) according to a new study released on Jan. 14 by Jupiter Media Matrix (see Introduction).

A private trading network (PTN) is an online collaboration between suppliers and manufacturers according to Jupiter Media Matrix. The Internet enables company and most experts estimate PTNs would be used to facilitate transactions for many businesses. In an increasing power of the Web to reduce inventory—and to doing this, in one company.

Tom Clark, Jupiter Media Matrix senior analyst and a featured speaker at the company's recent B2B conference in Boston, Mass., said that the use of PTNs is changing.

"PTNs are now a game for small players in many of the big companies are moving out to be used," he adds. "In addition, network vendors have seen that PTNs are the next big thing and are making software to do just these trading networks."

Some of the major software companies in the space are Microsoft, Sage Software, Microsoft and Oracle/PeopleSoft to name.

Clark said the automotive industry was among the first to adopt PTNs, but now other sectors have embraced them, including aerospace and technology.

PTNs also are becoming more buyer-centric, Clark said. "Buying networks tend to be many buyers and many sellers. Now, one buyer is selling many suppliers they want a private network. The buyer might say the privately as they might do."

The move to reduce inventory levels is significant, according to Clark, because having goods in finished products impeding at a building is half the inventory for companies all along a supply chain.

"The ultimate goal is less inventory in the system. If people are sharing inventory, it is beneficial to all," he said. "If there is a company selling around in a warehouse owner has to view it as the warehouse stock he owned and it must be sold. Call only has the amount of inventory that's sufficient to create needed parts to demand."

PTNs supply visibility by connecting the computer systems of companies that are trading partners, Clark added.

A final goal of PTNs is the buyer to reduce the number of suppliers. Clark said "Companies that need to buy 200 suppliers can have 20 suppliers they find for more savings."

—Ronald

## Compaq evolves up to EVO

New workstations and notebooks hope to lasso mobile, pervasive computing boom

By Tom Ichniowski

A new line of computing equipment with sleek looks and sleek exteriors is announcing Compaq's move into a market in which the lines between mobile and desktop, and home and office have been blurred.

"What is not a place but an activity," says John Thompson, vice president of North America in the Aurora Business Group with Compaq Computer Corp., in Houston, Tex.

"Technology today is moving away from computing to communications. People want access to their mobile systems and experience."

The new Compaq's new EVO line is designed to reflect this shift toward mobility and pervasive communications.

The line includes the Compaq EVO 4300, a business class notebook that comes with a



integrated modem, two USB ports, 64 MB of memory and a 14.1-inch hard drive.

The EVO 4400 (notebook) is a step up from Compaq's current demands 4300 notebook. It has built-in wireless connectivity as integrated modem, 64 MB hard drive, integrated modem, full-size keyboard, and MultiBay for expandability.

On the workstation side, the EVO 4500 is a business-class machine using Intel's Pentium processor, up to 1 GB of memory and

great and integrated 4x CD-ROM or DVD-ROM drives.

The EVO 4600 workstation offers desktop design and power design and 4x CD-ROM drives. But includes support for up to 4 GB of memory. It also offers professional video (DVI, VGA, SVGA), 4x CD-ROM, and integrated video output.

Compaq also offers a new line of business products in a notebook with a detachable screen, keyboard and mouse that can be used both in the home and office.

The concept design is part of Compaq's Dual World design, combining the best of laptop and business class features into one device.

Compaq also showed a portable line that 14.1-inch LCD with built-in keyboard. Company executives give no indication of when these products might be on the market. □





**Linux moves quickly into small business**  
Continued from page 44

"And certainly those traditional businesses that sell to small-to-medium businesses."

According to IDC, there is little chance that Linux will displace Microsoft any time soon in this market. In a study published in July 2000, IDC stated that Microsoft would continue to dominate the desktop operating environment for at least five to 10 years. "However, NT Workstation revenue growth was actually larger than that of the overall market."

According to IDC, Linux would make considerable gains, but it would not be enough to stop the market's long-term upwardly. It estimated that revenues from Linux and other open source environments would increase from \$350.9 million in 1999 to \$550.1 million in 2004.

#### Shedding the "hard to use" image

One of the reasons given for the reluctance of small businesses to use Linux is that it is perceived as being too hard to comprehend or use. Many small businesses do not have the technical expertise or funds or the time and resources to take the steps needed to integrate Linux into their businesses.

This is the argument put forward by Richard Whelan, secretary for London, Mass.-based American Airlines Computer Services Inc. His small software development company uses Linux on the backend, supporting its Web services, land and crew services, email, and its on-line post office.

Because Linux is designed to be user-friendly, integrating Linux into an existing network infrastructure has been relatively easy for smaller companies without technically experienced staff or

more likely to stick with Windows because they believe that the support is not in line with the time of installing going away with a Linux setup.

"The problem is that people don't like to change very much," Whelan adds. "If you are used to using Windows, you are likely to stay with Windows. To replace everything with Linux would not only be very costly but very time-consuming as well. Small businesses do not have the time to be messing around with IT."

But while many companies to hold onto the use of Linux, others argue that it is not perceived as being Linux being difficult to use may have been the case in the past, but that's changed, Collins told him, and IBM Corp. (IBM.com) has implemented a variety of ways to help Linux for small business users, with its own IBM Linux for Small Business Series, has made Linux infinitely easier to use and supports for the enterprise customer. All of these solutions come with plenty of support from their distributors, and that's not enough the Linux community is always eager to offer help and advice.

"The information we've pulled 40 percent of the Linux business is in small business today," says Dale Anderson, vice president of solutions and integrated marketing with IBM in Somers, N.Y. "And if you consider it that Linux is the fastest growing server operating system in the world, with 1.2 million licenses last year alone (40,000 were in small and medium businesses)."

Dalton says that smaller companies are looking to Linux to make their work with Linux a better experience. They are not looking towards Linux to replace Windows or to making network infrastructure, even if it is just a few machines networked to share resources. In fact, smaller businesses are looking to Linux as a complement to their day-to-day

Recognizing this, IBM includes both desktop software and server software in its Linux for Small Business Series. The server portion of the package comes with Linux (Linux Application Server IBM WebSphere and IBM's IBM Universal Database Workgroup). The desktop portion comes with IBM Java Edition, Linux Java for Windows, Linux Developer Design for Windows, Struts, and WebSphere. However, Butler says and use of both parts is designed to be very straightforward, so small businesses won't have to struggle to get Linux into their networks and desktops.

Another company that is focusing on making Linux easier for smaller businesses to use and install is New York-based, Linux Office Solutions Inc. (linoffice.com). "We offer what's called a business to quickly convert almost any PC into an all-in-one Linux server. The selling point is that this can be done in one day and for free."

"It is an all-in-one solution that provides you with an email server, Web server, the server part of your firewall, and a gateway to the Internet," says Colin Crowley, president of Linux Office Solutions. "The benefit of this solution is that it is a one-stop and you don't need money coming into your office." He recently presented a config screen that is that a person can put together their server to the office and directed the solution."

"So, this is a business needs a couple of things: a standard PC or laptop computer, which can be a dedicated PC, or any other high-speed connection, and at least one of the standard hardware requirements of an IBM or Dell computer. 1GB RAM or better processor, 4GB RAM or 8GB, new PCI Ethernet card, and a 10 GB

drive. With these requirements met, the user simply has to follow some simple rules and guidelines and the system will easily use and download the necessary software and applications. The software solution will select any necessary business extensions, such as the number of people who want Web access, email accounts, news feeds, and printers. Linux Office Solutions then generates the necessary solution for the configuration, which is then loaded onto the server.

"We are targeting the kind of customer who wants to be in control and does not need their hand held," Crowley says. "It's like a last thing. You don't need to know how to use a printer to fill a tank, but you do need to be able to follow the rules and steps."

Because the configuration can be done remotely, Linux Office Solutions has been able to launch a business process. Recently, they did a Linux configuration on IBM AIX Workgroup, which is based in New York.

The cost savings for the kind of server configuration and support are consistent with Linux Office Solutions charges \$100 per hour for the customized setup and a \$100 per hour support fee.

#### So existing networks survive

Some are suggesting that when Linux has the best chance of getting into smaller businesses is not by making a claim to the desktop, but by integrating into technologies and devices that are used by small businesses. Linux, in a system, doesn't become available to the user; they should only use it to enhance the system, accomplish a particular task or set of tasks.

This is certainly the approach being taken

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## Platform News

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## Beauty marries the beast: Part 1

Apple's next-generation operating system—OS X—unifies Mac and BSD Unix

The following is the first article in a two-part ex-*dicto* review and history of the development of later C.H.E.

[illegible]

**S**eptember 16, 1981—exactly 1,000 days after finalizing its acquisition of Steve Jobs and NeXT Inc.—marked an otherworldly moment in Apple Computer's brief and exciting history. That's when Apple finally released a commercial version of its modern, next-generation operating system, meant to power the Macintosh for at least the next 15 years.

On 21 might he continued to be an extraordinary upgrade of the venerable (1978) old "classics" Mac operating system, but it's not Mac IIx as a complete rebuild project and is listed by Apple as "the world's most advanced operating system," combining "the power of Unix with the simplicity and elegance of the Macintosh."

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1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

For those who are not technically inclined, you can skip this section completely. The following description of the OS-E is meant to enhance awareness, E needs and the like.

For those of you who are investigating an Apple TV for the first time, the specifications you'll notice are: (1) It's basically a the-



Made U.S. intellectual property with HGT  
 Line 44. The core component is an open  
 source project code named Darwin. (Details  
 of the open-source agreement are posted at  
 Apple's site: <http://www.apple.com>.)

Some of the services offered by this new module symmetric multi-processing, multi-threading, pre-emptive multi-tasking, memory protection, and advanced high performance virtual memory and networking. One of the things Apple has done with the new operating layer is to add support for Macintosh streams as an abstraction layer on top of the traditional BSD socket architecture. Notably the streams architecture has been a component of the channel-based OS since the early 1980s. *by David Thompson on 4/20/01*

Anyone who doubts that Apple isn't using grossed User metadata tags should check out the Terminal app that Apple includes as part of its software folder on the macintosh. This application gives anyone with knowledge of Unix, but access to someone via a command-line interface. Apple also includes the User and the User.

The top of this block and iOS were Apple has added its main Qualcomm mobile processor for multimedia services, OpenGL for 3D graphics, and a new third-generation x86-based, 3D display technology called Quartz.

opere strapuntino in a cluster of male/female programming. *Strapuntino* is a drive report for the services Black, BIA, Quarta, Quindici and Cinque.

The first framework we'll talk about is called *Carfax*, for developers who have already implemented considerable processes for developing classic Java/J2E applications—Adobe Macromedia, and Microsoft were no good examples—this will be the preferred method of porting their apps to OS X. Apple has made a *Carfax* update available on its site so that will profile any classic application and give the developer a list of which API calls are no longer valid and need to be modified. According to Apple, less than 10

[illegible]

**Author reveals  
key personalities  
behind U.S.  
vs. Microsoft**

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

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**Building**  
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Adults is no stranger to the information technology industry nor the stage glories. The book begins with a portrait of a profoundly witty Bill Gates talking out at the author over a dinner some while attending a CEO conference in Texas. Nevertheless, there collapsing into a near adolescent state of distress over the anti-trust investigations that were then just beginning. In short, it is clear from the start that this is not a dry book based solely upon countless examples—the author knows many of the people who ended up on the stand.

1. **Introduction**

100% 100%

## Apple unveils new portables, all-LCD monitor lineup

Year	Population	Population
1990	100	100
2000	100	100
2010	100	100
2020	100	100
2030	100	100
2040	100	100
2050	100	100
2060	100	100
2070	100	100
2080	100	100
2090	100	100
2100	100	100

**A**s we heard on our deadline last time, Apple has received a second generation of their computer hard anatomy like kind art by the PowerMac G4s and PowerMac G5s on the costly colors and structural styling of just iMac and iMac. The new Apple style appears to be clean lines and neutral colors. New others and G5 iMac should be released this summer to complete the family line. In the meantime, let's look at what these new iMac have to offer.

The first departure from Apple tradition breaks the color-as-like-speeds. Namely, there is only one speed and you can spend from \$1,000 to \$2,799 but you get the same processor in each model, a 500 MHz G4 chip with 256MB of on-chip cache that runs at 500 MHz. This is up from the old iMac's 440 MHz base and 640 MB of cache, but not the 600 MHz and



Thank you very much. We expect to have the year in and the year out in the next few weeks.

However, the 1991-1992 oil shortage that the Soviet government has announced will close next year is also

other important change. While the old Block was larger and heavier than these PowerBlock versions, the new class is both smaller and lighter than the significantly more expensive PowerBlock Go Titanium. The Block weighs in at only 2.00 kg (4.4 lb.) in the standard configuration, which is almost 50% (3.0 lb.) lighter than the second-class Go.

the flood is also smaller at 17.5% (1.5 m) (BAGLIERI 1996), although the PowerPlant Ltd in Britain at only 2.54 m (8 in.) Because the flood is almost a small rectangle, you have to expect a smaller flow (water volume) and while Apple has left the screen size at the same 12.1 inches as the previous model, they have increased the resolution from 640x480 to 1,280x800 which makes a huge difference in usable space. Now you can cut more of your documents, fit more graphics, and generally more efficiently take action. The price is \$1,500.

**Abstract**



# **Ready, mangle the beast! Part 1**

Continued from page 79

pieces of the code of most classic apps that will need to be tuned, and in the process the developers will gain all the multi-era services that OS X offers.

The second framework is called Cocoa and it is regarded by many developers as having the most relevant and powerful cross-platforming code in the industry. To use Cocoa you must learn a native language called Objective-C (which apparently is not difficult if you already know C or C++).

To get you on your feet, here's the Cocoa development framework as a develop-

er who helped port the classic version of the game *Gus* to OS X was quoted as saying that "the [the management code is composed of 800 lines in Cocoa is a whopping 14,000 lines for the Carbon version." As another example, Apple's library of applications frameworks named *services* in the helpfully Developers' Conference (WWDC) with a three-volume discussion, in which he said Cocoa's visual tools and a few lines of custom code to build a single video-playing application.

Another bonus to using Cocoa is that you automatically get multi-processing services that OS X offers. For programmers building

new apps from scratch, or rebuilding smaller classic apps from the ground up, that will utilize the framework of choice.

The last major framework Apple supports is Java. OS X is fully JRE-compliant and additionally a can to directly into the new *Java* interface structure called *Applet*. Several security measures (Builder 3 and offered a pre-release version to developers who attended the WWDC.

For cross-platform application development as a strategy, how will be the framework of choice for developers. If you want to see an example of an app built using Java 2 on the Mac, go to <http://www.apple.com/macosx> and

download a demo version of *MacOSX*.

While developers state that using Apple's native support on OS X, Mac users can maintain their investment in their software by running a cut-top of Darwin in what is known as the *Classic* environment. This environment is not as seamless as it is, in fact, a separate process that runs in its own memory protected space. Classic applications that run in this environment do not get the individual benefits of native OS X services such as pre-compiled code, caching, protected memory, and the like. As in the native classic (i.e., OS), one application can potentially terminate the process which will force you to restart the classic environment. However, it's important to note that native OS apps are not affected by this.

Many developers are also looking into doing parts of many common Unix and Linux apps. Apple has a complete listing on its site because OS X is based on BSD Unix, running on *PowerPC*. This porting generally requires a complete rewrite with a major exception. Of course, if you want to port the *Apple* UI on top of this it will require more effort.

With the commercial shipping release of OS X, Apple has launched a *Developers' Tools* CD that includes the advanced developer environments called *Project Builder* and *Interface Builder* along with other maintenance tools. These packages support software projects using any of the frameworks I've mentioned above, and as of May 10 they also support Java development using *WebObjects* 3. Web application server software.



Fig. 1

As an alternative development environment, Microsoft gets away from its pre-release version of *CodeWarrior* 7 in the *WWDC*. The tools support the *MacOS* object file format and all of the OS X frameworks I've mentioned. The final release is expected to ship in the fall.

Another platform support in the current incarnation of the well-cold, high-performance, open source *Apple* Web server with OS X includes any steps I can take to publish a Web site using my Mac as a Web server. All I needed to do was create a *Apache*, drop my *WWW*, connect me my *Web* folder, then over *Web* sharing in the sharing control panel.

Stability was Apple's number one goal for its next-generation OS. Unlike the quiet monolithic classic Mac OS, OS X is designed to be modular from the ground up. The core services of *Media* and *SSL* along with *CoreServices* and *Quartz*, *OpenGL*, and *QuickTime* will enable Apple to rapidly advance its system and application services without breaking native applications.

## **The goal of X**

If you're a non-technical user who has skipped the last releases on my advice, let me tell you in no time at all of May 2002's anticipated release can be made to you.

Despite advancements made by Apple and

Continued on page 79

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# Author reveals key personalities

Continued from page 79

It does a lot of work connecting the issues surrounding the case, presenting a laid-out and broad picture of both the state of the computer industry at the beginning of the trial and of the threat and scope of U.S. anti-trust laws over the past century. Asella also delves into the personalities of the major players in the drama, such as lead prosecutors J. Edgar Hoover, David Boies, Judge Tamm, Pauline Newman, Apple chief Steve Jobs, and, of course, Gates.

What's fascinating about the story as it unfolds is the way in which Microsoft's case unfolded due to what Asella rightly calls "bait by luring."

The legal team representing Microsoft seemed to have right after the start. It was clear from the government's strategy and case legal case, the Supreme Court's decision, and the final outcome, that the Supreme Court's case would remain unscathed. However, the defense team did not seem to have noticed possible questions that their own own witnesses would be asked, nor did they produce a narrative that convincingly drew their points home. Instead, they took a scattered approach, an "assessments by checklist" that represented numerous scattered points while failing to provide any facts. In doing so, it was clear that the defense team at part the judge (Samuel Alton) to sleep.

It also seemed as if the Microsoft team wasn't really trying, assuming perhaps that what was in the case would simply be accepted. If this was the case, it was another major mistake as Judge Jackson ended up making separate findings of fact, from his conclusions of law, the fact was of which are conclusively said to argue

against at the appellate court level, as they are rarely shared.

What started as a case based on Microsoft's anti-competitive practices towards Netscape ultimately led to other issues more introduced by the prosecutor. Microsoft's various dealings with Apple in promoting Internet Explorer over Netscape Navigator, its dealing with Sun Microsystems and Java, IBM and OS/2, and other Microsoft's executives, decided to introduce Internet Explorer with Windows 95. In the end, the prosecution built a very convincing and strong case against Microsoft not only for being anti-competitive, but as Judge Jackson eventually ruled, for acting as a monopoly.

One of the more fascinating aspects of the book is its coverage of the extensive media coverage led by Judge Richard A. Posner. What was not in much of the media was the fact that Microsoft was, again, in trouble by the time, considering the prosecution is obviously misled during the trial to make to get a much desired verdict. Microsoft was willing to compromise, and agree to behavioral remedies while not admitting guilt, while providing competitors with powerful access to Windows technology without loss of royalties. The more convincing book was the group of State Attorney General, who could not agree in a single strategy, ultimately supporting an otherwise highly successful antitrust process, which would have been readily to competitors now, rather than later.

World 7.0 is a fascinating book, and anybody interested in the Microsoft antitrust case will find it illuminating. Of course, since the fact of Microsoft has yet to be decided, the book truly is only incomplete, but it is a compelling read. □

# A brief overview of the road to X

A brief overview of a new "modern" operating system actually goes back much further than the last years and a few old days that followed the Mac's acquisition. In the late 1970s Apple partnered with IBM on projects called Project Wind and Project, which were visionary attempts at building an object-based system. In 1980, Apple added to the commercial (then under development) project called AIX, short for Apple Inc. and, of course, almost everyone to build the project. Apple then was called on to build the project and then was called on to build the project and then was called on to build the project.

Apple's acquisition of Next in February 1997 finally led to the gradual and often delayed development efforts to provide a new operating system and the final version of the system was released in 1998. The first developer release of X was in 1997, and the first consumer release was in 1998. The first developer release of X was in 1997, and the first consumer release was in 1998.

The first developer release of X was in 1997, and the first consumer release was in 1998. The first developer release of X was in 1997, and the first consumer release was in 1998. The first developer release of X was in 1997, and the first consumer release was in 1998.

First and foremost among them was Apple's investment in the classic Mac OS applications (such as Adobe Photoshop, Microsoft Office, QuickDraw, etc.) to be written from the ground up using an object-oriented framework called "Yellow Box" (generally it is known as "Cocoa"). These developers were simply unwilling to work the substantial effort and money required to rewrite and debug millions of lines of code in order to take full advantage of OS X.

At the May 1998 developer conference, Apple announced by announcing that it had created a supplemental framework called Cocoa. This new programming interface accommodated developers by only requiring a smaller and less complex code (less than 25 percent) of classic application code.

The second challenge Apple faced was developing a mechanism for backwards compatibility with classic applications. This was done by re-engineering the system. The current Mac OS library of external applications is estimated to number about 10,000. With Project X, Apple developed a compatibility layer, code-named "Libc," that was released over the years. It became what is

known today as OS X in the classic environment. Apple's third challenge was to create a new user interface that would substantially improve upon the classic window to X, and generally considered to be the best in the industry. The fourth challenge, while all of this other stuff was happening, was to keep the classic Mac OS and competing with the new Windows NT releases (i.e. Windows 95, 98, Me, etc.). Project X was one of these three challenges starting from 1998, up to 2001, largely by Apple in the years.

The final major challenge was similar to the one faced by the original developers of the Mac in 1977. What is the best software design for a new platform or that it will sell with the new Internet and digital age? This is a hard thing to do in parallel with development. The focus outside needs to be on the way we were anticipated.

To understand why Apple has embarked on a completely new operating system path, you must first understand a little about the evolution of the Mac's software design.

It's very hard to say that the original Mac OS team of software engineers created only an entirely different set of constraints in the early 1980s. The case OS and Finder had to fit into 128KB (yes, that's right, 128KB) of memory and it had to be able to run on a single processor and provide a single application.

Also consider that nearly all of the time could have been spent on the types of services as OS would have to provide in the desktop computer use of today. For example, the classic Mac OS contained, even at inception, 111,111 lines of software, including applications, system, and components. ColorSync, system-level, volume management, QuickTime media components, and TCP/IP networking capabilities are a few examples of technologies that were added into the Mac's OS OS design years after it was conceived. Every time Apple introduced an on-board processor, their software engineers would have to start to the bottom task of attempting and modifying the core of the system.

The situation can be likened to trying to replace the foundation of a building in progress to add additional levels to it. At some point it simply became more efficient to blow up the building and start again from scratch.

—Peter Altmann

## Communicating with Koko

All-right, the world's first signing service, has been seen with one who displays the distinctive sign (signing "Koko the Koko" in American Sign Language). To get back to the Christmas spirit by watching her sign for you, visit a KokoWorld.



"Communicating with Koko" is a series of SignLine videos featuring her teacher and guide, Koko. Koko has signed some new words to the Koko vocabulary, which are listed on the website.

Visit [www.koko.com](http://www.koko.com) to see the videos and learn more about Koko's sign language.

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## Online &amp; Connected

Internet Trends • Wired and Wireless • Online Services • Work &amp; Play on the Web

## How good is your stream?

By Tom Ichniowski

Streaming media—an instant show high the quality of the connection—has often been plagued by downright lousy delivery. Too often, people trying to hear into a radio or video stream online are greeted by long connection times, buffering problems and acceptable results. The problem for the companies providing the stream is that they often don't know about the problems—at least not until people start flooding their mail boxes with complaints.

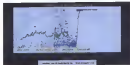
Stream-based broadcaster (http://www.streambase.com) is looking to change that by letting streaming media designers get a real-time look at how well their media streams are doing.

Streambase is a privately held company that grew out of the work Candescent Software Inc. was doing to improve streaming audio delivery and presentation. Candescent created Real Network's Real Player and several other media players and server-side plug-ins. Streambase grew out of Candescent's development in improving the monitoring and management of streaming media content over the Internet.

"Streambase is a system that provides objective data about streaming data quality," says Dan Beggs, president and chief executive officer of Streambase. "We provide our customers objective, end-to-end measurements of how the audience actually receives the content they are perceiving."

According to Beggs, that information can tell content providers whether, for example, people in New York are having problems connecting to a media stream, how long it takes to connect to a media stream, whether there are a lot of buffering and re-buffering problems or even interruptions in a data stream.

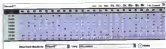
"That is very important to content owners and providers because



Streambase's Streamwatch provides users with other users' experience buffering problems in other stream interruptions.

users and levels of streaming media. It tracks DDL, buffer, and drop-out connections as well as monitoring how the streams are delivered through the network.

"In this way, we can find out if a browser user is getting the stream well, if an office user is getting it well and what kind of technology have to



Streambase's Streamwatch offers a simplified, better graphic, analysis of a client's streaming quality.

be fixed in order for them to get the stream better," Beggs adds.

The information can be presented in various ways and with varying degrees of complexity. Streambase's StreamQ2 presentation gives a better view on the quality of the streams being monitored. It shows people can connect quickly to the streams, there were no buffering and re-buffering problems, disconnections, and few lost data packets. Clients

Continued on page 39

## Boating sites for recreational sailors

By Keith Ishiguro-Sabers

With summer fast approaching, many would-be sailors are looking to research their recreational boating after a long winter. Each year, more than eight million Canadians take to the water in boats. Following are Web sites catering to the boater—in words or better—in all of us.

**• Pw's Boating in Canada:** One of the oldest and largest Web sites aimed at Canadian boaters. If you need to look up boating regulations, guides to choice boating locations in Canada, and listing of boat shows across the country and much more, chances are you'll find it here. It may not look pretty, but it is a very comprehensive Web site. <http://www.pwboating.com>

**• Power Boating Canada Magazine:** If you have a need for speed, then you'll want to check out this site. Boating itself is "Canada's premier boating publication," this site provides selected articles and features about boating activities contained in its magazine before articles are printed in its magazine. <http://www.powerboating.com>

**• Windward Wave:** This site is designed for boaters who want the "best of the best" that are the Great Lakes. This site provides links to weather resources, articles of particular interest to those sailing the Great Lakes, information on local events, sailing art, and more than 100 links placed at various locations around the lakes. <http://www.windwardwave.com>

**• Cruising Canada:** Cruising Canada provides a lot of useful information, including general boating news, listings of Canadian yacht clubs, a good Lake Ontario cruising guide and much more. If you are looking to break up your 100 cubic miles, discover the safety equipment required for your boat, or are looking to buy a boat, you will find that information here also. <http://www.cruising.ca>

**• Kids Boating Guide:** The National site from the Federal Department of Fisheries and Oceans provides the full and comprehensive safe boating guide for children. There are online publications aimed at helping parents promoting boating safety for their children, how to help protect marine environments, and how to look after your boat. You will also find information here on when to take accident courses on boating safety in Canada.

For more on your boating hobby, go to:

**• Whistler Boating News (WhistlerBoating.com):** This directory lists a number of different boating specialists and voluntary organizations on the East, West and Arctic coasts that will help you get the chance to experience what's down-up. Whether you are in Cape Breton, N.S., north of Charlottetown, or in British Columbia, you'll find

Continued on page 39



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## Cult of the Dead Cow to preview filter-bypassing browser

**LONDON, England**—The Cult of the Dead Cow (COW) is the (pseudo)charismatic, the original team behind "hacker" pagelets such as Back Office, is developing an advanced Web browser that can reportedly bypass company or parent control system options.

Known as Penetration into Workstations, Back Office is set for unveiling at the July 10/11 security event in Las Vegas.

Latest reports suggest that the browser requires local security mechanisms using an advanced proxy option to pull data down from the Web or via FTP (file transfer protocol), or by using all local data (potentially a company-approved file).

The browser can also be set to send any data captured to a site or mail ("Penetration-friendly" servers, which can also direct the data returned)—also anonymously—and encrypt them for wireless transmission, either via FTP or email, to the remote computer.

The real potential security complications start, sources suggest, when Penetration users "open up" their browser to allow their machines to act as intelligent peer-to-peer interfaces for other Penetration users.

This could mean, for example, a Chinese Web site purporting to provide U.S. state's P1 to give access to files that have been stolen from those states, perhaps by the Chinese government.

Such online activity has prompted the UK's Internet Watch Foundation (IWF) to tag Penetration, but also planning to discuss Penetration, but David Ross, the head of the

Foundation said he was unsure of any such plans, either for Internet or its newer staff.

Ross said he was aware of the COW's claims about Penetration and that based on what he had heard about the Web browser he has no concerns with the browser's capabilities.

The latest claim is a capable of bypassing any corporate or government-imposed security systems. If that's the case, then we have an option with it that we can use as an access control organization," he said.

Ross added that the IWF developed its browser, Content Settings System (CSS) to allow people to judge whether the information they were planning to view was reliable.

"We have no problem with anything that wants to allow users to give access to files that may have been controlled or blocked by others," he said.

One of the key to getting the software (a desktop) (a desktop browser), says British and that (Penetration) research team is aware of Penetration and the COW's claims for the software.

While that, while the way to go by the freedom of speech, there is concern that it could result in controlling one and controlling other pornography for example.

"It's that office an electronic version of a national security strategy," he said, adding that Britain's MI6/MI7 cannot maintain such a package should protect information from any security effects. But Penetration might have Jonathan Ross, Britain's senior European

product marketing manager and that, although Penetration appears to have been developed for ethical reasons, there are concerns it may be abused and used maliciously to circumvent corporate firewalls.

"Based on my information that some security organizations are not a combination of this and could control security solutions to protect that businesses and employees from Penetration being used in a malicious manner," he said.

"Reports claim that the browser will not act, the browser is not intended to store data instead of a central server using the most-viewing technology, Napster and Gnutella," he added. But says that security Penetration and safe view of its file access down to establishing and enforcing Web and email usage policies.

"The browser has to point at a server in DNS, it is not, and these addresses will be listed somewhere," he said, adding that, by establishing any policy to block these addresses and then enforcing it using a Web content system, organizations can protect themselves from Penetration being used in a malicious manner.

But also advises companies that policies should be established and enforced to help block-and Internet mail to block all, encrypted data unless it comes from a trusted source.

"One of the security services from distributing any patterns such as addresses, leaders to other, Penetration could be configured to detect and block these," he said.

—David Ross

## MP3.com delivers audio-hosting

**LOS ANGELES, Calif.**—Online music collection MP3.com (http://www.mp3.com) is now offering a new service that will allow users to share their files.

The San Diego, Calif., company will allow customers of the new audio hosting service to share their files with other users of the service, allowing MP3.com users to share their files with other users of the service.

"We're really in a transition to build any old infrastructure," Michael Robertson, MP3.com's chairman and chief executive officer, said in a statement. "We're not just audio hosting service, other can have a variety of other services and infrastructure to create their own and make their own, which may mean some relationship with other services."

MP3.com will also have a new service to help users who want to share their files. It will help users create a new service to help users who want to share their files.

The company outlined three standard pricing plans designed to accommodate different levels of usage and storage space.

For a monthly fee of \$200, the first plan will allow users to store up to 100 MB of digital files, the highest and most expensive plan. The second plan will allow users to store up to 50 MB of digital files, and the third plan will allow users to store up to 25 MB of digital files.

MP3.com and customers who need more space have been told that they will also have to upgrade their products.

The company said its audio hosting service will allow users to share their files with other users of the service, allowing MP3.com users to share their files with other users of the service.

—David Ross

## Global handheld market US\$56 billion by 2006, study predicts

**LONDON, England**—A report released by a top analyst firm predicts the handheld device market is growing fast and will reach a market worth \$55.4 billion within five years.

The study by the IDC Group (http://www.idc.com) forecasts that by 2006, 44 percent of all mobile computing devices shipped will be equipped with embedded wireless cellular data modules. The report forecast includes connectivity, the researchers said, will see the creation of a truly mobile computing society.

Mobile computers in the form of personal digital assistants (PDAs) and handheld PCs (HPCs) have become a rapidly adopted technology among business users and consumers, and have opened a diverse and expanding market for study today.

Wireless connectivity via commercial cellular phone networks gives users

mobility to enable Web access and enables access to company databases and records. This packet data technology being deployed is the way to third generation (3G) such as GSM and GPRS will enable mobile computers users to provide always-on, always-connected access to data and services, the study said.

Advancing technology is transforming mobile computers into true Internet terminals and business computing tools, the report said, adding that laptop-based devices represent a critical part of the new products that can be created by wireless mobile computers.

The report concluded that next-generation embedded wireless modules, such as wireless LAN in place will allow the market expansion for mobile computing users, offering wireless productivity and mobility.

—David Ross



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# Demand for IT staff still there, but quality not quantity is now key factor, says Canadian educator

The Institute for Computer Studies (i4cs.com/canada/it/staff) says now that there are more information technology job opportunities, companies need top employees instead of scores of IT employees to simply fill empty spots.

"One of the things we can't understand is why the demand in information technology, in people who are in the field are wondering 'What is the right demand?'" said Lawrence Sautter, president of

the institute.

"It is true today, from the past 20 years we've seen 20 to 30 times more in demand for most jobs. There is a caveat to be laid on it."

He cites three factors that will help IT workers become successful: the type of training the importance of the talent attracted, and a positive attitude.

"Good skills are vital, but soft skills determine

whether you can work within the company."

Specifically, one of the "top six attributes" placed the reason for it is much talent out on the market, but little business models that were put in place.

"It wasn't the technology model that failed, it was a business model failure. In fact, the education infrastructure that has been built is phenomenal."

And for those who are worried about getting

into the IT industry as a result of which's happened, Sautter offers this advice: "Take a walk down the street and look at all the big office buildings. They think about how much IT is in each building—in every office and in every floor and then, ask yourself this: Who is going to run it all?"

—Debra Freeman, Canada.computers.com

## No screen or keys on next-gen ATMs, says NCR

ORACLE, England—NCR (nrc.com/usa) has unveiled the world's first computer and keypad automated teller machine (ATM) for depositing cash. The next to appear is requiring users to enter details via a Windows XP-based PC (also known as digital automated teller) in a mobile phone.

The ATM, which is in the final stages of development, is code-named Freedom, and has been designed for urban retail outlets and other super-urban locations where ease of use is more important than having a complex ATM on the premises.

The app-based ATM does a lot more than simply deposit cash. By securely interacting with a user's PDA or mobile phone—using infrared or Bluetooth to transmit data—the unit can print out balance and even download MP3 music files to the PDA.

NCR says the Freedom ATM has been designed to work across a broadband connection to the Internet, allowing it to download files from a central server, then pass them along wirelessly to a PDA or advanced mobile phone.

Although currently only in prototype form, the first plans to stage a number of user trials later this year.

Chris Baker, NCR's marketing vice-president for Europe, said that Freedom demonstrates how ATMs are evolving from simple cash dispensing machines into delivery machines that will fit almost people's mobile lifestyle.

Advances in Bluetooth and third-generation (3G) technology will bring new services through mobile devices, and ATM could enhance these broadband services by dispensing automated physical items," he said.

Baker added that the ATM can also be used to download local news maps to the user's mobile device, changing the way as part of the company's release process.

Baker said that he sees ATMs, such as the Freedom being located in hotels and airports, as well as in business stores. Because the unit has no display or keyboard, the unit of the unit can be kept sleek, allowing the ATM to seem to be installed as a commodity.

One of the most interesting aspects of the Freedom unit is that the client software, which can run under Windows (Microsoft) or the user's mobile device, does not need to interact with the host ATM at all times.

Users could, for example, log on their PDA software and enter their request to a remote location and wait until they move within range of a Freedom ATM. By wirelessly interacting with the machine, data can be exchanged out, if appropriate, before or cash dispensed by the unit.

—Frederick

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## Advanced charting



A chart is a great tool for giving your users a large amount of information at a glance. A chart makes a large data set into a single image that is easy to understand. A chart makes a large data set into a single image that is easy to understand. A chart makes a large data set into a single image that is easy to understand.

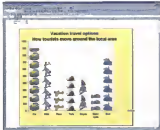


Fig. 1 (Right) • Chart bars with image icons for a standard presentation tool.

bars, charts help break up text-heavy pages. The grid thing about charts is that they are so easy to create and to get into most offices.

This month we'll look at some advanced charting options that are available in Excel, how to plot data as more than one series, adding images to charts as they jump off the page, and put charts with a focus on displaying data's new trend in the chart system.

To follow the step-by-step examples that we're constructing (Excel 2000) you'll need version 2000 or 97.

### Quick reference

In case it's been a while since you created a chart, here's a quick reference to get you up and running. Type some data into a spreadsheet, then choose the numbers and some area and column headings as follows: (1) you'll start the steps, then, enter your data, trends, and continuous responses for three months.

To create your chart, highlight all the data you're interested, including:

the column and row headings, and click the Chart Wizard button on Excel's standard toolbar. In Step 1 of the chart wizard, choose the type of chart you want to create (click the Plot and Field in View Sample button to see what the chart will look like) and click Next to proceed.

Continued on page 37

Excel for Windows, Part 25

## Filtering mail with procmail

By Gary Williams



the volume of mail

in our Internet dream may take that might be better spent doing other things. To make use of this time, we need to make our system easy to filter mail so we can make our system more efficient.

Filtering allows us to set up rules or filters that sort mail for going to specific folders, put high-priority correspondence into a "mailing" folder, and perhaps even all other mail into a "mailing" folder that can be accessed occasionally for anything important. Doing this can make our system more efficient.

reduce the amount of time it takes to manually process mail.

Procmail mail readers frequently offer built-in filtering rules—filters for the Windows and Macintosh has some nice ones and even Proc has some filtering capabilities. These rules will sort mail into a single category, but if you want to sort mail into multiple categories, you need advanced filtering, a proprietary solution may fall short of your needs.

The most effective method of filtering mail is to use a filter that is actually delivered and place your filtering rules there. Linux offers a superb mechanism for doing this: a program called procmail. Procmail, created by Stephen D. Oost, does this, is the focus of this Windows section.

### Get the idea, installing

If you're already running Linux and using a mail reader such as Netscape Mail to check your mail directly from your ISP's POP server, you can jump Linux for Windows. Inside being boring, it's not clear. Time to reduce your approach.

The easiest mail processing power the

first thing to do is implement a specialty program in the old POP filtering in the background, and let it forward mail to the MTA (mail transfer agent) on your Linux box. The MTA, in turn, delivers the mail to your local account. This can then be used as mail reader of choice, be it Procmail, or an MTA-based reader.

The most popular mail filter in the open source world is procmail, an open source utility created by Steve D. Oost. It is installed by default on Red Hat systems. Procmail is not a simple, straightforward way to install it on a Windows box is your home directory and run as a background process, pulling your ISP account or regular internet.

Because your mail processing is handled by your Internet provider, the Internet will not create unless you check your mail from a POP server. This is the only way to get mail from your ISP's POP server, or from a POP server.

A home Internet box that filters mail from two different Internet providers looks

Continued on page 38

Visual Basic, Version 6, Part 12

## Database concepts

By Joseph Garver

We have been looking around the topic of database in the context of trends for a number of years. First, database concepts and the key terms associated with using databases, SQL, structured query language, are somewhat difficult to grasp in the context of the current state of the database system. Second, one of Visual Basic's (VB) strengths and weaknesses is its support for databases.

The strength of VB in databases is that, along with Access and SQL, Windows, VB provided easy access to databases through simple programming, simple drag-and-drop operations that are "data aware" which are built into the VB IDE (Integrated Development Environment). VB can connect to many different databases, including the ODBC (Open Database Connectivity), and now ADO (Active Data Objects), which considerably simplified access to existing databases.

The weakness of VB in databases is the many different access methods that have created over the years. There have been many times when, ranging from ODBC to ADO (Active Data Objects), and now ADO (Active Data Objects), which considerably simplified access to existing databases.

Finally, rapid changes are shown in VB database access. For example, ADO is shown in 1.5 years old and being replaced by the new Visual Basic.NET by Microsoft, which adds more ODBC and other enhancements, but at the cost of some major system changes and performance trade-offs.

So, in these articles, some of the most important VB access methods will be discussed.

- DAO, because it remains so popular and is very useful as well as making use of the new Visual Basic.NET by Microsoft, which adds more ODBC and other enhancements, but at the cost of some major system changes and performance trade-offs.
- ADO, because it is the most powerful method in using an open enterprise-wide transaction system.
- ADO, since it is the latest and greatest VB database access method that can handle complex databases including the new Web-based access.

We specifically want to see how many from some of the specified access methods such as VB6, or ADO. By examining the use of these access methods, we can see how well the data is stored and how the data is used in the system.

### Database overview

Databases are not merely collections of data. All databases are organized in tables.

Continued on page 39









DOI: 10.1002/for





Many programmers would agree that the most important database object is the stored procedure. In fact, many database vendors create the view as a stored procedure.

Think of a stored procedure as a specialized program that helps to access, maintain, and/or control the database. Most vendors have a specialized and proprietary stored procedure language such as Oracle's PL/SQL, which resembles Pascal or SQL. Server's Transact-SQL.

But many database vendors support more than one stored procedure language. In fact, the cross-platform popularity of Java is such that database vendors, at diverse as IBM, Informix, Oracle, and Sybase among others, provide it, SQLJ, and JDBC as a more procedural language set.

There are many other database objects provided in relational databases, such as domains, indexes, and triggers among others. Many are being standardized by ANSI with the latest SQL: 1999 standard. But for our purposes, the most critical ones are the processing database objects in the online.

Indexes are used for one purpose: to speed access to a database table. And they can help do that, improving access speeds by a factor of 10 to as much as 1,000. But for the better access users must pay a considerable price:

- Creating indexes can take significant space, sometimes equal to the size of the table itself.
- The time to create an index can be quite high as well.
- When an entry is added, updated, or deleted, any indexes are also updated to reflect the new file updating tables.

For this last reason, indexes are often created by the database system on demand—like

database request. Another on the fly, using advanced optimizing algorithms. Whether creating an index will save enough query time to justify added creation. Database access and index creation at one point access and not just look at database set.

#### Next time

In our next tutorial, we'll look at some of the database tools provided with VB for manipulating, not just tables but other database objects as well. Readers will find that the ability to look at and change such as the contents of a database is vital in their VB programming.

And Microsoft has not failed after the years to provide our more functionality in the Visual Studio services through designers, wizards and other tools to manipulate data have us well on our way to our next tutorial. ☐

### Resources

#### Regarding Visual Basic

In Free English, Free Press, 1998, ISBN 0-02-305110-1  
Pages 400-500 about database access using  
VB3, VB4, VB5, VB6

#### Visual Basic 4 Third Edition

By Steven S. Yantis, Addison-Wesley, 1998, ISBN 0-201-35110-1  
Pages 800-850 offers a 30 minutes in storage at  
a low cost, but it's not a book.

#### Visual Basic 4.0 in VB5

By Ken Jones, Syntex, 1998, ISBN 0-13-080000-0  
This book has provided me with the  
ability to go from VB3 concepts, code,

#### The Visual Basic Handbook

By John H. Johnson, Addison-Wesley, 1998, ISBN 0-201-35110-1  
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## Quick Tips PowerPoint

By Brian Bradley

### How to scroll

When you're scrolling an element on a PowerPoint presentation, use its corner handles. PowerPoint will keep the title of the object in width of the object constant so it doesn't stretch out of proportion. If you want to format the image, use its side handles instead. To run more than one element while scrolling the same one, take click the first element to select it, hold the Shift key and click the other elements in turn. Then, when you adjust them, their relative sizes will remain intact.

### Layering objects

When you'll want to create a collage effect by layering one object on top of another. To do this, the first object must be partially transparent to the object beneath it. Show through this one by doing with many of PowerPoint's **WML** clip art images. **AM** the image, select it, then from the **Format** menu choose **Format**. If you're prompted to convert the image into a Microsoft Office drawing, click **Yes**. Immediately after this step, choose **Draw**, then **Group** again. Choose **Format**, **Object**, select the **Colors** tab. Under **Fill**, enable the **Transparency** checkbox and click **OK**. You'll now be able to use one of the underlying image through this one.

### Text as art

If you want to add visual interest to a slide, consider turning text around an image using **WordArt**. Choose **Insert**, **Picture**, **WordArt**, select a style, click **OK**. In your text, and click **OK** again. To alter the curve of your text, click the button with **WML** and choose an alternative shape. The curve curve is a good choice so you can "pull" text further around the curve (as it starts at 1) and extend instead of 2 effects. For example by clicking the **Flow** button, then rotating the text into position. Use the arrow handles to alter the "shape" of the curve to fit the object it surrounds.

### Cropping an image

When you'll find a **ClipArt** image that almost suits your needs, but needs an element removed. To crop text, crop using the standard method. To do this, click the image to select it, then on the **Picture** toolbar click the **Crop** tool. Drag around one of the four handles to crop away the portion of the image you want to eliminate. If you go too far, drag the handles out again. If

you select a full image, most the image to its original size by clicking the **Reset** button on the **Picture** toolbar.

### Performing gymnastics on images

If you have an image in PowerPoint, that is, by the way, you can use the **Fit** button. You can do this with most **WML** Clip Art images. If you hold your mouse over the image in the **Fit** button, it will tell if your intention is a **WML** flag to flip the image, select it, then choose **Format** from the **Draw** menu. If you're prompted to convert the image into a Microsoft Office drawing, click **Yes**. Immediately after this step, choose **Draw** then **Group** again. Now you can choose **Draw**, **Flip** or **Rotate**.

### Linking objects

The one object—such as **AutoShapes**, **WordArt**, and **Text Boxes**—together using PowerPoint's **Link** of **Connections**. To do this first add the objects you want to link, choose **AutoShapes**, then **Connections** from the **Drawing** toolbar. From the list, choose the connector you want to use and click once at the first object, then once in the second to point your connector on the screen. You can now see your mouse in the line, the position of the connector in relation to each object and the shape of the connector itself. Regardless of where you move the objects, they'll stay connected.

### Resizable bullets

You can add interest to your slides using **Picture** bullets in place of the regular text bullets. To do this, select the **Bulleted List** and choose **Format**, **Mean Bullets**. From the dialog box, **Picture** and choose a **Picture** bullet from the displayed list. If you have a custom bullet you want to use for example one created from a portion of your company logo—add it to the **Picture** bullets collection by choosing **Format**, **Bulleted List**, **Picture**, then choose **Picture** **Clip**. Locate the image in the list and choose **Insert** in it to be the collection. Next time you access the **Bulleted List** you'll be included. Remember that you can alter the bullet style for the entire presentation if you make your changes to the **Slide Master** by choosing **View** **Master**, then **Slide Master**. **CD**

Brian Bradley practices a writing-based career, his columns appear regularly in a number of publications in Ontario, Canada, the U.S. and the U.K. Contact Brian at [brian@brianbradley.com](mailto:brian@brianbradley.com).

## Telus Mobility colours the cellular experience

By Jeff Evans

Japan built electronics giant Sharp and Canadian cellular phone service provider Telus Mobility have unveiled two significant new technologies for mobile service users: colour screens and lighter batteries.

On display at a showcase in late May was Sharp's SCP-5000, a Web-enabled CDMA cellular phone featuring a built-in high resolution colour LCD screen that offers much more in functionality display of email and Web pages than any cell phone ever has seen. The two-inch colour screen is a big advance over the tiny, low resolution monochrome screens of most standard cellular phones.

Also on display was an amazingly light and thin SCP-5000 cell phone, a paper thin, ultrathin phone with a monochrome display. The SCP is the first product to use the new Japanese Polysilicon battery technology, which drastically reduces battery weight, which is the main part of a cell phone's weight.

The SCP-5000 will ship later in July, and the SCP-4000 will ship later in 2001. While the price has been set, both models are expected to be in the \$400 to \$500 range.

According to Eric Okuma, president of Sharp Canada, "Our relationship with Telus Mobility is a dream coming true in creating exciting new portable communication products. The new phones Sharp and Telus Mobility are introducing today make it easier than ever to access portable email and Internet services. We're people wanting the Web in their pocket and this is our goal."

Now even Internet browsing's wireless alternative device that we use in a future for PCS."

The two major technologies unveiled in these two products—high-resolution colour screens and ultrathin battery—are significant technological advances in making cell phones truly powerful Internet appliances.

One major remaining obstacle in wireless data transmission speeds for cell phone users



we think the so-called 3G services are established in the next couple of years, full Web browsing is set to be a done project.

However, as the new mobile battle by cell phone makers for the biggest rights that go with offering the new gadget to you, Sharp appears to be ahead, for the moment.

As Wade Ostromer, a VP at Telus Mobility put it, "The full-resolution screen and elegant design of the SCP-5000 are no doubt a vital part of our vision right across the country. At work the SCP-4000 is an amazing little phone, so easy to carry in a pocket calculator yet still featuring all the network services and usability of much larger phones. We're very proud to be the exclusive Canadian carrier of these and other Sharp wireless phones."

For further information, contact [www.telusmobility.com](mailto:www.telusmobility.com) or visit [www.telusmobility.com](http://www.telusmobility.com).



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